Chapter 1: Working with Light and Time

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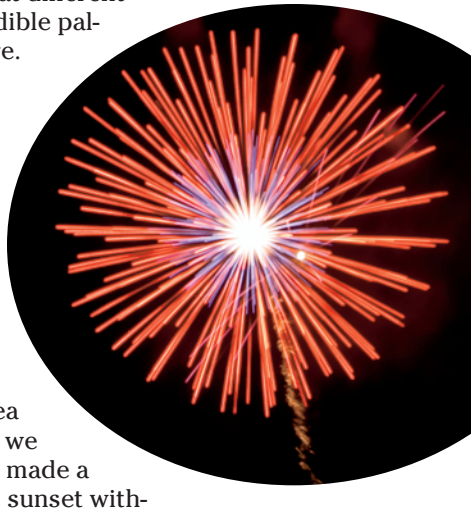
You shouldn't be surprised to read that light and time are important aspects of photography.

Different situations with different lighting conditions at different times of the day (or night) combine to make an incredible palette that you as the photographer get to try to capture.



If you're tired of shooting the same old scenes, make the effort to go out at different times of the day. Try shooting at dusk and at night, into the sun and away from the sun, with the sun shining sideways, or from shadow or into shadow, for example.

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High-Contrast Sunset in HDR

This set of photos was taken after a long afternoon of shooting. I shot quite a few bracketed shots of the area while my family visited the park. While driving home, we noticed that the sunset started to look *incredible,* so I made a quick turn and went where I knew I could capture the sunset without letting too many obstacles get in the way.

Stay on the lookout for clouds as the sun sets. They can transform a scene into an incredible display of color and detail as they show highlights and shadows and capture the color of the setting sun.

(ISO 100, f/8, 1/320 second, Sigma 10-20mm F4-5.6 at 10mm) 2009

Bracketing the scene allowed me to point directly into the sun to capture detail and color in the foreground. If I had approached this shot normally, the sunset and sky (and, to some degree, the river) would have looked good, but everything else would have been in silhouette.

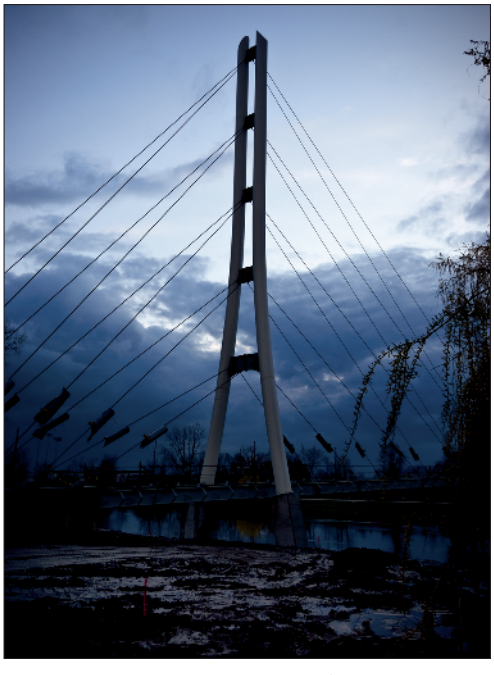
For more information on HDR, turn to Book VI, Chapter 4.

Option	*Setting*	*Notes*
ISO	100	HDR shot with ISO 100 to reduce noise; shutter speed generally not a problem
Aperture	f/8	My "go-to" aperture for most scenic shots for depth of field
Shutter speed	1/320 second	For the 0 EV exposure
Brackets	9 (+/– 1.0 EV)	AEB; 9 exposures at 4/–3/–2/–1/0/+1/+2/+3/+4 EV
Camera	Nikon D200	Semipro dSLR; cropped body (FX)
Lens	Sigma 10-20mm F4-5.6	Ultra wide-angle zoom; useful for wide landscape shots
Focal length	10mm	35mm equivalent: 15mm
Processing		Nikon Capture NX 2 (raw); Photomatix Pro (HDR); Photoshop
Other		Manual exposure mode; tripod; remote shutter release; pattern metering

Low-Contrast Cloudy Evening

This scene presents the opposite challenge from shooting at sunset in HDR. In this photo, the sun is setting, and the light is hidden behind the cloud cover on the edge of the horizon. The sky lacks dramatic contrast, and the scene as a whole has a limited color palette.

Sometimes, less than optimum conditions can contribute to producing fantastic shots. Results matter — not our preconceived notions. In this case, I processed the photo artistically by adding a vignette in Photoshop to emphasize the silhouetted bridge and clouds.



(ISO 100, f/8, 1/60 second, Sony DT 18-70mm f/3.5-5.6 at 20mm) 2009

Option	*Setting*	*Notes*
ISO	100	Outside shooting toward the setting sun; even though this is a darker scene, you don't need to raise the ISO because the shutter speed was more than reasonable
Aperture	f/8	My "go-to" aperture for most scenic shots for depth of field
Shutter speed	1/60 second	No need to go faster; nothing is moving in the scene, and I used a tripod
Camera	Sony Alpha 300	Entry-level dSLR; cropped body (FX); built-in Super SteadyShot image stabilization
Lens	Sony DT 18-70mm f/3.5-5.6	General-purpose zoom; budget kit lens; good value
Focal length	20mm	35mm equivalent: 30mm
Processing		Adobe Camera Raw (raw); Photoshop
Other		Manual exposure mode, tripod, remote shutter release, pattern metering

Sunlit from the Side

(ISO 100, f/5, 1/160 second, Sigma 10-20mm F4-5.6 at 16mm) 2008

You never know when you're going to get a truly nice-looking photo. I realize that my statement sounds strange in a book that describes how to take good photos in different conditions, but it's true.

I took this shot at a local zoo. My family was riding a small train that circles around the lake. As the train chugged back to the station, I leaned out and took the shot, looking ahead. The sun was low and off to the right, which is a key element of the photo. You don't capture shadows like this when you point your camera at the sun or directly away from it.

I was momentarily in the right place at the right time, ready to take the photo. Sometimes even landscape shots can be spontaneous.

Know how your camera works and practice using it. Be ready for every situation so that can you can literally just "point and shoot."

Option	*Setting*	*Notes*
ISO	100	Outdoors in strong daylight
Aperture	f/5	An action shot in the sense that I was moving and used a larger aperture to get a faster shutter speed, an approach I chose over raising the ISO
Shutter speed	1/160 second	Fast enough shutter speed for a blur-free shot from a slow-moving train
Camera	v	Entry-level dSLR; cropped body (FX); built-in Super SteadyShot image stabilization
Lens	Sigma 10-20mm F4-5.6	Ultra wide-angle zoom
Focal length	16mm	35mm equivalent: 24mm
Processing		Photomatix Pro (pseudo-HDR); Adobe Camera Raw (raw); Photoshop Elements; in this case, I overlaid a semitransparent pseudo-HDR layer (created from Photomatix Pro) on top of the normal photo to enhance the contrast and color
Other		+1.0 EV exposure compensation; center-weighted metering; aperture priority; shot handheld while moving on a train

Just Past Dusk (Or Thereabouts)

Unlike the photo in the earlier section "Sunlit from the Side," this shot was completely set up. I set up camp on the east side of the lake so that I could frame the water, trees, and light all at the same time as the sun went down.

(ISO 100, f/4, 1/13 second, Sigma 10-20mm F4-5.6 at 10mm) 2008

Don't waste your time going out and setting up your equipment, shooting five or six shots, and then wrapping up and going home. Go out and stay a while. Take extra batteries and one or two extra memory cards.

To capture the photo shown in this section, I arrived early, chose my position, examined different framing options, and started taking photos during the golden hour. I continued until dark so that I would have a wealth of options to choose from when I returned home and analyzed the photos. Although they show the same scene, they're completely different pictures because of the ever-changing light.

Option	*Setting*	*Notes*
ISO	100	Maintain a low setting to reduce noise; originally part of an HDR bracketed set that didn't look good in HDR, so I selected a single exposure and processed it
Aperture	f/4	Opened, to let in more light
Shutter speed	1/13 second	Fast shutter speed not as important; no moving objects and using a tripod
Camera	Sony Alpha 300	Entry-level dSLR; cropped body (FX); built-in Super SteadyShot image stabilization
Lens	Sigma 10-20mm F4-5.6	Ultra wide-angle zoom; useful for scenic shots, such as this one, where no distortion is detected
Focal length	10mm	35mm equivalent: 15mm
Processing		Sony Image Data Converter SR (raw)
Other		Manual exposure mode, tripod; remote shutter release; mosquito repellent; snacks; pattern metering

Casting a Shadow

This shot from my local zoo (again) takes advantage of the setting sun, which is highlighting the trees on the far side of the lake. I couldn't find a vantage point to take the photo without my shadow getting in the way, but then I realized that purposely making the shadow an element of the photo would be interesting. (The rocks in the foreground weren't exciting, anyway.)

My wide-angle lens helped capture the lake and made it feel large.

(ISO 100, f/8, 1/200 second, Sigma 10-20mm F4-5.6 at 20mm) 2008

Option	*Setting*	*Notes*
ISO	100	Shot outdoors in strong daylight
Aperture	f/8	My "go-to" aperture for most scenic shots
Shutter speed	1/200 second	Fast; stop down to reduce, if necessary, when shooting at ISO 100
Camera	Sony Alpha 300	Entry-level dSLR; cropped body (FX); built-in Super SteadyShot image stabilization
Lens	Sigma 10-20mm F4-5.6	Ultra wide-angle zoom
Focal length	20mm	35mm equivalent: 30mm
Processing		Adobe Camera Raw (raw); Photoshop Elements
Other		Manual mode; pattern metering; tripod; remote shutter release; exhausted family in a van (out of frame to the left) waiting to return home

Lightning Crashes

One good thing about storms, unlike other exterior subjects such as mountains or the ocean, is that they're everywhere. I took this shot from the front porch of our house.

(ISO 100, f/5.6, 16 seconds, Sony DT 18-70mm f/3.5-5.6 at 20mm) 2008

Photographing lightning is a matter of being in the right place at the right time with your camera set up and *already shooting* when the lighting strikes. (Notice the taillights on the car in the lower left corner.) That's right: The shutter must be open if you want to capture lightning — it's too fast otherwise. Close the shutter when you think you're on the verge of overexposing the photo or after the strike.

I had to choose a focal length that provided good coverage of the sky and, more importantly, choose which direction to point the camera. To do that, I observed the storm to see where it was moving and tried to predict its action.

In this case, an intense storm cell had just passed, and the rain had eased, so I was able to set up my camera on the porch without fear of getting it wet. I quickly oriented the camera at the trailing edge of the storm, plugged in the remote shutter release cable, and switched to Bulb mode. Then I triggered the first exposure and waited. And waited. When I wasn't waiting, I missed several lightning strikes because they were behind me or on the other side of the house. Then I saw an incredible strike hit, just up the street. I got it!

Do *not* take unnecessary risks for a photograph. Shooting during storms, especially when lightning is present, can be incredibly dangerous.

I took the shot in this section when the storm was moving away, and even then, the lightning strike scared me silly. I went inside soon afterward.

Option	*Setting*	*Notes*
ISO	100	No need for high ISO with extended shutter times
Aperture	f/5.6	I didn't consider setting an optimum aperture at the time, proving that you can sometimes choose questionable settings and still produce good-looking photos
Shutter speed	16 seconds (Bulb)	Bulb setting, much like the one for fireworks; open the shutter and wait for the "zap!"
Camera	Sony Alpha 300	Entry-level dSLR; cropped body (FX); built-in Super SteadyShot image stabilization
Lens	Sony DT 18-70mm f/3.5-5.6	General-purpose zoom; budget kit lens; good value
Focal length	20mm	35mm equivalent: 30mm
Processing		Sony Image Data Converter (raw), Photoshop
Other		Tripod; remote shutter release; pattern metering; change of underwear

Inside-Out Bobcat

The following photo shows a creative way to take advantage of light and shadow. As I stood outside our garage, looking through the window, as a Bobcat tore out the existing concrete.

I used center-weighted metering because a lot of things were happening that could confuse the camera. The interior of the garage was much darker than the outside, and the driver was in shadow. It was just after 2 p.m., and the sun was beating down brightly from almost directly overhead.

You can change metering modes whenever you need to.

I switched to center-weighted metering to try to properly expose the Bobcat, but even then had to address some of the shadows in processing.

(ISO 100, f/4, 1/1000 second, Nikon Nikkor 28mm f/3.5 AI) 2009

Option	*Setting*	*Notes*
ISO	100	Subject shot in strong light
Aperture	f/4	Used older lens to experiment with wider apertures; sharp with good depth of field, mostly because of the distance
Shutter speed	1/1000 second	A bit of overkill, dictated by the wide aperture
Camera	Nikon D200	Semipro dSLR; cropped body (FX)
Lens	Nikon Nikkor 28mm f/3.5 AI	Used an older manual-focus lens on my Nikon FE2 SLR. Although it's compatible with my D200, it supports only manual focus. This focal length is used on cropped bodies. AI lenses were introduced by Nikon in 1977 and allow the camera to automatically index the maximum aperture of the lens
Focal length	28mm	35mm equivalent: 42.0mm
Processing		Photoshop Elements; from JPEG (proving that you don't always need to use raw)
Other		Aperture priority, manual focus; center-weighted metering; handheld

Fabulous Fireworks

Don't skimp when you take photos of fireworks — take as many pictures as you can. Bring extra memory cards, too, if you have them. Take longer exposures of a few blasts and shorter ones of a single burst. If you leave your shutter open too long, light reflecting off the smoke from the display becomes more visible.

Bring along your tripod and (cable or electronic) remote shutter release. The tripod is a necessity because you'll leave the shutter open (use the Bulb setting to press and hold open the shutter), and you want blurry photos. If you use the remote shutter release, you can sit back and have some fun as you watch the fireworks without having to manhandle the camera during every exposure. Use a locking cable so that your finger doesn't cramp up from endlessly holding down the shutter release button.

(ISO 100, f/8, 2 seconds, Sigma 10-20mm F4.5-5.6 at 12mm) 2008

The secret to shooting fireworks is using the Bulb shutter speed in Manual exposure mode. The exact timing is up to you. Your camera will pick up the light from the fireworks just fine. You have to decide whether you want to freeze a burst (as I did here) or catch an extended display.

You can't physically move closer or further away easily, so bring a multipurpose zoom lens. Experiment with different focal lengths so that you get the coverage you want at your current distance. Previewing photos in the heat of a noisy fireworks display is difficult. Check a few photos first, and then trust your settings. Set the manual focus to infinity, turn off long-exposure noise reduction, and set the ISO to 100.

Take snacks, beverages, a blanket, and possibly a lawn chair to sit on while you watch the show and take your photos. And don't trip over the shutter release cable!

Option	*Setting*	*Notes*
ISO	100	No need for a high ISO, even in the dark; the fireworks, combined with the Bulb shutter speed, are plenty bright
Aperture	f/8	My "go-to" aperture for most scenic shots
Shutter speed	2 seconds (Bulb)	To use the special shutter speed Bulb, press and hold the shutter release button to open the shutter and then release the button to close it; your finger appreciates your use of a remote shutter release with a locking button
Camera	Sony Alpha 300	Entry-level dSLR; cropped body (FX); built-in Super SteadyShot image stabilization
Lens	Sigma 10-20mm F4-5.6	Ultra wide-angle zoom; a good general-purpose kit lens with reasonable wide-angle capability would work well, too
Focal length	12mm	Used this decidedly wide-angle focal length to cover a good portion of the sky and not leave fireworks outside the frame; cropped to the fireworks blast (35mm equivalent: 18mm)
Processing		Sony Image Data Converter SR (raw), Photoshop Elements
Other		Manual exposure mode (because of the Bulb shutter speed), tripod; remote shutter release; pattern metering; candy; family